

# UTILITY PATENT APPLICATION TRANSMITTAL (Large Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.  
12990(SZ998-043)

Total Pages in this Submission  
3

## TO THE ASSISTANT COMMISSIONER FOR PATENTS

Box Patent Application  
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

**METHOD OF INTERCONNECTING COMPUTERS AND COMPUTER NETWORK**

and invented by:

**Heiko H. Ludwig, Keith G. Whittingham**

If a **CONTINUATION APPLICATION**, check appropriate box and supply the requisite information:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

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Enclosed are:

### Application Elements

1. ☒ Filing fee as calculated and transmitted as described below
2. ☒ Specification having 23 pages and including the following:
  - a. ☒ Descriptive Title of the Invention
  - b. ☐ Cross References to Related Applications (if applicable)
  - c. ☐ Statement Regarding Federally-sponsored Research/Development (if applicable)
  - d. ☐ Reference to Microfiche Appendix (if applicable)
  - e. ☒ Background of the Invention
  - f. ☒ Brief Summary of the Invention
  - g. ☒ Brief Description of the Drawings (if drawings filed)
  - h. ☒ Detailed Description
  - i. ☒ Claim(s) as Classified Below
  - j. ☒ Abstract of the Disclosure

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## Application Elements (Continued)

3. ☒ Drawing(s) (when necessary as prescribed by 35 USC 113)
- a. ☒ Formal                      Number of Sheets 1
- b. ☐ Informal                      Number of Sheets \_\_\_\_\_
4. ☒ Oath or Declaration
- a. ☒ Newly executed (original or copy)                      ☐ Unexecuted
- b. ☐ Copy from a prior application (37 CFR 1.63(d)) (for continuation/divisional application only)
- c. ☒ With Power of Attorney                      ☐ Without Power of Attorney
- d. ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting inventor(s) named in the prior application,  
see 37 C.F.R. 1.63(d)(2) and 1.33(b).
5. ☐ Incorporation By Reference (usable if Box 4b is checked)  
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied  
under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby  
incorporated by reference therein.
6. ☐ Computer Program in Microfiche (Appendix)
7. ☐ Nucleotide and/or Amino Acid Sequence Submission (if applicable, all must be included)
- a. ☐ Paper Copy
- b. ☐ Computer Readable Copy (identical to computer copy)
- c. ☐ Statement Verifying Identical Paper and Computer Readable Copy

## Accompanying Application Parts

8. ☒ Assignment Papers (cover sheet & document(s))
9. ☐ 37 CFR 3.73(B) Statement (when there is an assignee)
10. ☐ English Translation Document (if applicable)
11. ☐ Information Disclosure Statement/PTO-1449                      ☐ Copies of IDS Citations
12. ☐ Preliminary Amendment
13. ☒ Acknowledgment postcard
14. ☒ Certificate of Mailing
- ☐ First Class                      ☒ Express Mail (Specify Label No.): EL286464750US

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## Accompanying Application Parts (Continued)

15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)

16. ☒ Additional Enclosures (please identify below):

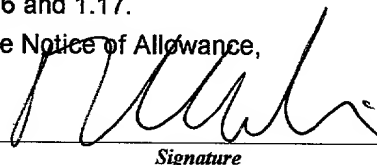
Claim of Priority - to be submitted in due course

## Fee Calculation and Transmittal

### CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	18	- 20 =	0	x \$18.00	\$0.00
Indep. Claims	2	- 3 =	0	x \$78.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$760.00
OTHER FEE (specify purpose) <u>Recordation of Assignment</u>					\$40.00
TOTAL FILING FEE					\$800.00

- ☐ A check in the amount of \_\_\_\_\_ to cover the filing fee is enclosed.
- ☒ The Commissioner is hereby authorized to charge and credit Deposit Account No. 50-0510/IBM as described below. A duplicate copy of this sheet is enclosed.
- ☒ Charge the amount of \$800.00 as filing fee.
  - ☒ Credit any overpayment.
  - ☒ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
  - ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).



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Group Art Unit

**Unassigned**Invention: **METHOD OF INTERCONNECTING COMPUTERS AND COMPUTER NETWORK**I hereby certify that this **New Patent Application***(Identify type of correspondence)*

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: The Assistant Commissioner for Patents, Washington, D.C. 20231

on **November 4, 1999***(Date)***Mishelle Spina***(Typed or Printed Name of Person Mailing Correspondence)**(Signature of Person Mailing Correspondence)***EL286464750US***("Express Mail" Mailing Label Number)***Note: Each paper must have its own certificate of mailing.**

METHOD OF INTERCONNECTING COMPUTERS AND COMPUTER NETWORK

Background of the Invention

Technical Field

5 The present invention generally relates to the art of  
connecting computers and specifically to a method of  
interconnecting at least two server computers, generally  
pertaining to differing corporate entities; each server  
10 being connected with a least one client computer and  
including, or having access to, a workflow control  
application.

Prior Art

Workflow control means and applications are well known in  
the art and operate with different media. Typical  
electronic workflow control applications (also termed  
Workflow Management System or WfMSs) are available  
20 commercially in various types and from various sources,  
e.g. in the form of specialized systems, such as "MQ  
Series Workflow®" from IBM or "TeamFlow®" from ICL, or as  
parts of so-called Enterprise Resource Planning Systems,  
such as R3® by SAP and Baan® by the Baan Company.

25 Today's systems of this type do not distinguish between  
and external view of a process that is visible outside  
the organization and its internal details. Their  
interfaces are generally aimed at the internal user.  
30 This is a problem if one organization (provider  
corporation) wants to perform a process on behalf of  
another (requestor corporation) so that it can be

initiated and accessed by the requestor corporation through an automated interface and, vice versa, so that results generated by the provider can be reported back to the requestor.

5

10

This issue gains importance; specifically, an increasing need to outsource non-core business leads to increased service activity between separate companies. However, business organizations do not normally want to make internal information available to business partners nor do they wish to restrict their ability to conduct business internally. If separate organizations enter into a business relation, they will normally conclude an agreement or contract defining the circumstances under which the requestor corporation might initiate a process in the provider corporation and exchange further information when performing the process. As used herein, the term "contract" is a description of mutual obligations in the form of a protocol.

15

20

The use of server computers running a workflow control application in one and the same organization has been an issue for some time. Organizations want to deploy more than one server to balance workloads or to provide service at different sites that are connected by low bandwidth or only intermittently. If several servers are used, process templates have to be distributed as well as states and data of processes and activities. The various distributed parts have to be kept consistent. This problem has been discussed and described in the art; some solutions have been implemented in commercial products, such as IBM's MQ Series Workflow® mentioned above.

25

30

For the purpose of this specification, the terms "server" and "server computer" are used synonymously and refer to an electronic computer which functions as a "host" computer and is capable of being operatively connected with one or more "clients" (short for "client computer"). The connection of a server and at least one client results in a "net" (short for interconnected electronic computers).

A related issue is interoperability between workflow control applications of different vendors. Grown computer infrastructures tend to be heterogenous. This is a problem of providing standard interfaces to workflow control applications for server-to-server communication. Various attempts have been made at defining such an interface, e.g. by the 'Workflow Management Coalition', (a consortium of workflow control application vendors and users) which has created an interface called Interface 4 (cf. Technical Report WfMC-TC-1013, edited by the Workflow Management Coalition (1995), Hampshire, England). The term "interface" is used to refer to a physical or virtual means capable of causing operative interconnection connection of physical and/or virtual entities.

These known interfaces help to cross vendor boundaries but do not cross corporate limits. Notably, such issues as privacy, flexibility and independence are not addressed because the relationship between internal (i.e. inter-corporate) and external (i.e. intra-corporate) interfaces is not a subject of such interfaces.

Another prior art attempt, i.e. the 'Wide Area Groupflow' system (cf. Nastanski et al; "Managing business process in virtual enterprises- interaction of distributed workflow mangament systems"; *Proceedings of the ESTIEM, IT-Vision Conference, Paderborn (1997)*; and Riempp, G., et al, "Workflow management between distributed organizations-the wide area groupflow approach", in Lehner et. Al(ed.) *Proceedings of the ESTIEM, IT-Vision Conference; Deutscher Universitätsverlag, Wiesbaden 1997*) suggests to connect processes across organizational boundaries. While this approach addresses the issue of privacy, it requires that the organizations declare process templates as externally accessible. As a consequence, this approach does not provide a means to map an external representation of a process to an internal one, which implies a loss of independence and flexibility.

Agreements and contracts are known per se in various fields of transactions, workflow management, and distributed systems in general: A first prior art contract approach (cf. Wächter, H. Et al; "The ConTract Model", in Elmagarmid, A.K. (ed.) *Database Transaction Models for Advanced Applications*, San Mateo 1991) enables a performance of long-lived transactions of the type that can be perceived as processes, by committing, at an early stage, those parts of a transaction for which compensation mechanisms have been agreed upon.

Another prior art system termed "Coyote Approach" provides similar mechanisms while explicitly taking into account that services as parts of transactions can be



executed in different organizations (cf. Dan, A. et al,  
"The Coyote Approach for Network-centric Service  
Applications; *Proceedings of the Workshop on High*  
*Performance Transaction Processing HPTP, Asilomar 1997*).

5 The external services contemplated in this approach are  
short-lived, however. Similar properties are provided by  
the more recent TOWEC Approach (Verharen, E.M. et al,  
"Introducing contracting in distributing transactional  
workflow" in *Proceedings of the 31st Annual Hawaii*  
10 *International Conference on System Science*, New York  
1998); it allows closing contracts for process-type  
transaction steps rated 'very important'.

#### 15 Summary of the invention

Now, the present invention is concerned with combining a  
contract approach with what is called a virtual  
enterprise co-ordinator (also termed VEC for short  
herein) explained in more detail below and developed to  
20 enrich such agreements by expressions for failure-  
responsibility of a process and to supervise these  
enriched agreements in the connector application having  
the function of a gateway. However, none of these  
approaches addresses terminology issues.

25 Accordingly, the present invention is directed to an  
improved method for interconnecting at least two server  
computers of different corporations, each of which is  
connected with at least one client computer, and wherein  
30 each server runs a workflow control application which  
may, but need not, be the same, and to solve the

terminology problem to guard privacy and independence of operation.

5 The present invention is further directed to a computer network comprising at least two server computers each of which is connected with a least one client computer, and wherein each server computer is running a workflow control application.

10 Brief Description of the Drawings

Preferred embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings in which:

15 Fig.1 shows a simple schematic view of interconnected server computers running workflow management system applications; and

20 Fig.2 shows a schematic view of parameter mapping of work tasks.

25 Detailed Description of the Preferred Embodiment of the Invention

30 Now, according to a first embodiment the invention provides a method of interconnecting a first server computer of a service requestor and a second server computer of a service provider, each of said first server computer and said second server computer being connected to at least one client computer said first server

computer running a first workflow management system application, and said second server computer running a second workflow management system application, said method comprising providing a first and a second connector application for permitting said first server computer access to a copy of said first connector application and for permitting said second server computer access to a copy of said second connector application, wherein said copies of said first and said second connector application each comprises a connection agreement for a first work task of a first workflow instance encompassed by said first workflow management system application which copy of said first connector application further comprises a first mapping table including a first service terminology and a common terminology, and which copy of said second connector application further comprises a second mapping table including a second service terminology and said common terminology, said first work task being transposed by said first mapping table from said first service terminology into an input data set in said common terminology, said input data set being marshalled to said second server computer over a common connection, and said marshalled input data set being transposed to a second work task by said second mapping table from said common terminology into said second service terminology, and said second work task being processed by said workflow management system application.

According to a second embodiment, the invention provides a computer network comprising a first server computer of a service requestor and a second server computer of a

service provider, each of said first server computer and  
said second server computer being connected to at least  
one client computer, said first server computer running a  
first workflow management system application, and said  
5 second server computer running a second workflow  
management system application, said first and second  
server computer being interconnected by means of a first  
and a second connector application arranged in such a  
manner that said first server computer having access to a  
10 copy of said first connector application and said second  
server computer having access to a copy of said second  
connector application, wherein said first and said second  
connector application each comprises a connection  
agreement for a first work task of a first workflow  
15 instance encompassed by said first workflow management  
system application, which copy of said first connector  
application further comprises a first mapping table  
including a first service terminology and a common  
terminology, and which copy of said second connector  
20 application further comprises a second mapping table  
including a second service terminology and said common  
terminology said first work task being transposed by said  
first mapping table from said first service terminology  
into an input data set in said common terminology, said  
25 input data set being marshalled to said second server  
computer over a common connection, and said marshalled  
input data set being transposed to a second work task by  
said second mapping table from said common terminology  
into said second service terminology, and said second  
30 work task being processed by said second workflow  
management system application.

According to a preferred embodiment, the results of the second work task of the second workflow management system application are transposed by the second mapping table from the second service terminology into an output data set in the common terminology, wherein the mapped output data set is marshalled to the first server computer over the common connection, and the marshalled output data are transposed by the first mapping table from said common terminology into said first service terminology.

According to another preferred embodiment, the first and second connector applications reside in a first and second access device of the service requestor and the service provider, wherein each access device comprises an access computer including the connector applications.

In a further preferred embodiment of the invention, the connector applications reside in the server computers of the service requestor and the service provider.

According to another preferred embodiment the connector applications reside in the client computers, which are connected to the service requestor server computer and to the service provider server computer.

The following description references Fig.1. The service requestor organization 1 has service requestor server computer 112 with a workflow management system application (WfMS) 3 and one variant of an Access Device: 5 the Service Requestor's Access Device. The service provider 2 has service provider server computer 122 with

a WfMS 4 and the other variant of an Access Device: 6 the Service Provider's Access Device.

Before a work task of a service requestor 1 can be outsourced to a service provider, several operations must be completed:

- an accord between a service requestor and a service provider must be established either verbally in written form or by some other means,
- a workflow template must be established in the service requestor's WfMS 3 with one of the workflow's sub-tasks representing a work task 7 to be outsourced,
- a workflow template 15 must be established in the service provider's WfMS 4 to represent the processing of the whole outsourced work task 15,
- a connection agreement must be created and a copy is stored in the service requestor's Access Device 8 and the service provider's Access Device 12,
- mapping tables 9 and 13 describing how to map data items described in the workflow templates to data items described in the connection agreement are created and stored in the service requestor's Access Device 9 and the service provider's Access Device 13.

Once the above criteria have been established, the system is capable of outsourcing tasks. The following text is an overview of successfully processing a single outsourcing task using a previously established connection agreement 8 and 12 as described above. The

device allows many instances of such a process using the same or different connection agreements to run concurrently.

5 A workflow instance 18 of a workflow template is created. Using a workflow interface 11 provided by the WfMS 3 the service requestor's Access Device 5 detects when the workflow reaches a point where it is appropriate to request the service provider to perform the outsourced  
10 work task 7. The correct connection agreement 8 is located, this indicates the details of the service provider 2 and the relevant data mapping table 9. According to this, information data is retrieved from the workflow instance 18 and marshalled into a format that  
15 can be interpreted by the service provider's Access Device; this is termed the input data ip1, ip2 (see also Fig.2). The request to start the outsourced task together with said input ip1, ip2 is passed across a computer network 17 to the service provider's Access  
20 Device 6. On receiving the request the service provider's Access Device locates it's copy of the connection agreement 12; this indicates the mapping table 13 to use to marshal the input data and the name of a workflow template 15 for the outsourced task. The service  
25 provider's Access Device marshals the input data into the form defined in the workflow template using the mapping table 13. The service provider's Access Device then starts a new workflow instance 19 of the workflow template 15 using the WfMS workflow client computer  
30 interface 16. A connection record 14 is created and stored in persistent memory.

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The service provider's Access Device 6 detects the completion of the workflow instance 19 using the workflow client computer interface 16 to the WfMS 4; the completion code and any output data of the workflow instance is retrieved. The connection record 14 is used to retrieve the mapping table 13 that is in turn used to marshal the data into the format that can be interpreted by the service requestor's Access Device 5, this is said to be the output data op1, op2. Said output data op1, op2 is then sent to the service requestor's Access Device across the computer network 17. The connection record 14 is removed from the system. On receiving the notification from the service provider's Access Device the service requestor's Access Device 5 retrieves the respective connection record 10. The connection record allows the correct mapping table 9 to be retrieved and used to translate the output data into the format define by the workflow template 7. The completion of the outsourced task is signalled and said translated data is passed to the WfMS 3 using the workflow client computer interface 11.

The mapping tables 9 and 13 for the purposes of this invention are described in more detail with reference to Fig. 2:

The mapping table 9 of the service requestor maps the work task 7 from a first service terminology 9a into common terminology 9b. The result of this mapping are the input data ip1 and ip2, which are marshalled over the connection 17 to the mapping table 13 of the service provider. The mapping table 13 of the service provider



maps the input data ip1, ip2 from the common terminology 13b to the second service terminology 13a for the work task 15 of the service provider. The result of the work task 15 of the service provider is mapped by the mapping table 13 of the service provider from the second service terminology 13a to common terminology 13b. This mapped result comprises the output data op1, op2 which are marshalled to the mapping table 9 of the service requestor. This mapping table 9 maps the output data op1, op2 from common terminology 9b to the first service terminology 9a, which output data serve as a result of the outsourced work task 7.

The inventions as described above allows the service requestor and the service provider to save privacy, flexibility and independence as follows:

Privacy: All communication from a process of sub-process to the outside or vice versa is sent through and controlled by the connection applications. No direct interaction between workflow control application of different organizations takes place. No information will be exchanged beyond what has been specifically defined in the agreement according to which the process and sub-process are connected.

Flexibility: By mapping the common view of a sub-process onto the respective internal representations, both organizations are free to modify on both individual and template level. However, an internal modification might entail the requirement for an organization to also change its mapping.



## Claims

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

1        1. A method of interconnecting a first server computer  
2        (112) of a service requestor (1) and a second server  
3        computer (122) of a service provider (2), each of said  
4        first server computer (112) and said second server  
5        computer (122) being connected to at least one client  
6        computer (111, 121);

7        said first server computer (112) running a first  
8        workflow management system application (3), and said  
9        second server computer (122) running a second workflow  
10       management system application (4);

11       said method comprising providing a first and a second  
12       connector application (5a, 6a) for permitting said first  
13       server computer (112) access to a copy of said first  
14       connector application (5a) and for permitting said  
15       second server computer (122) access to a copy of said  
16       second connector application (6a);

17       wherein said copies of said first and said second  
18       connector application (5a, 6a) each comprises a  
19       connection agreement (8, 12) for a first work task (7)  
20       of a first workflow instance (18) encompassed by said  
21       first workflow management system application (3);

22       which copy of said first connector application (5a)  
23       further comprises a first mapping table (9) including a

24 first service terminology (9a) and a common terminology  
 25 (9b, 13b), and which copy of said second connector  
 26 application (6a) further comprises a second mapping  
 27 table (13) including a second service terminology (13a)  
 28 and said common terminology (9b, 13b);

29 said first work task (7) being transposed by said first  
 30 mapping table (9) from said first service terminology  
 31 (9a) into an input data set (ip1, ip2) in said common  
 32 terminology (9b, 13b);

33 said input data set (ip1, ip2) being marshalled to said  
 34 second server computer (122) over a common connection  
 35 (17), and said marshalled input data set (ip1, ip2) being  
 36 transposed to a second work task (15) by said second  
 37 mapping table (13) from said common terminology (9b, 13b)  
 38 into said second service terminology (4a), and said  
 39 second work task (15) being processed by said second  
 40 workflow management system application (4).

1 2. The method of claim 1 wherein said processed second  
 2 work task (15) generates a result (wo1, wo2), said result  
 3 (wo1, wo2) being transposed by said second mapping table  
 4 (13) from said second service terminology (13a) into an  
 5 output data set (op1, op2) in said common terminology  
 6 (9b, 13b), said mapped output data set (op1, op2) being  
 7 marshalled to said first server computer (112) over said  
 8 common connection (17), and said marshalled output data  
 9 being transposed by said first mapping table (9) from  
 10 said common terminology (9b, 13b) into said first service  
 11 terminology (9a).

1 3. The method of claim 1 wherein said copy of said first  
2 connector application (5a) resides in a first access  
3 device (5) of said service requestor (1); said first  
4 access device (5) comprising a first access computer  
5 including said first connector application (5a).

1 4. The method of claim 1 wherein said copy of said  
2 second connector application (6a) resides in a second  
3 access device (6) of said service provider (2); said  
4 second access device (6) comprising a second access  
5 computer including said second connector application  
6 (6a).

1 5. The method of claim 1 wherein said copy of the first  
2 connector application (5a) resides in said first server  
3 computer (112) of said service requestor (1).

1 6. The method of claim 1 wherein said copy of the second  
2 connector application (6a) resides in said second server  
3 computer (122) of said service provider (2).

1 7. The method of claim 1 wherein said copy of said first  
2 connector application (5a) resides in said first client  
3 computer (111).

1 8. The method of claim 1 wherein said copy of said  
2 second connector application (6a) resides in said second  
3 client computer (121).

1 9. The method of claim 1 wherein said first workflow  
2 management system application (3) is essentially the same

as said second workflow management system application  
(4).

10. A computer network comprising a first server  
computer (112) of a service requestor (1) and a second  
server computer (122) of a service provider (2), each of  
said first server computer (112) and said second server  
computer (122) being connected to at least one client  
computer (111, 121);

said first server computer (112) running a first workflow  
management system application (3), and said second server  
computer (122) running a second workflow management  
system application (4);

said first and second server computer (112, 122) being  
interconnected by means of a first and a second connector  
application (5a, 6a) arranged in such a manner that said  
first server computer (112) having access to a copy of  
said first connector application (5a) and said second  
server computer (122) having access to a copy of said  
second connector application (6a);

wherein said first and said second connector application  
(5a, 6a) each comprise a connection agreement (8, 12) for  
a first work task (7) of a first workflow instance (18)  
encompassed by said first workflow management system  
application (3);

which copy of said first connector application (5a)  
further comprises a first mapping table (9) including a  
first service terminology (9a) and a common terminology

26 (9b, 13b), and which copy of said second connector  
 27 application (6a) further comprises a second mapping table  
 28 (13) including a second service terminology (13a) and  
 29 said common terminology (13b);

30 said first work task (7) being transposed by said first  
 31 mapping table (9) from said first service terminology  
 32 (9a) into an input data set (ip1, ip2) in said common  
 33 terminology (9b, 13b);

34 said input data set (ip1, ip2) being marshalled to said  
 35 second server computer (122) over a common connection  
 36 (17), and said marshalled input data set (ip1, ip2) being  
 37 transposed to a second work task (15) by said second  
 38 mapping table (13) from said common terminology (9b, 13b)  
 39 into said second service terminology (13a), and said  
 40 second work task (15) being processed by said second  
 41 workflow management system application (4).

1 11. The network of claim 10 wherein said processed  
 2 second work task (15) generates a result (wo1, wo2), said  
 3 result (wo1, wo2) being transposed by said second mapping  
 4 table (13) from said second service terminology (13a)  
 5 into an output data (op1, op2) in said common terminology  
 6 (9b, 13b), said mapped output data set (op1, op2) being  
 7 marshalled to said first server computer (112) over said  
 8 common connection (17), and said marshalled output data  
 9 being transposed by said first mapping table (9) from  
 10 said common terminology (9b, 13b) into said first service  
 11 terminology (2a).

12. The network of claim 10 wherein said copy of said first connector application (5a) resides in a first access device (5) of said service requestor (1), which first access device (5) comprises a first access computer including said first connector application (5a).

13. The network of claim 10 wherein said copy of said second connector application (6a) resides in a second access device (6) of said service provider (2), which second access device (6) comprises a second access computer including said second connector application (6a).

14. The network of claim 10 wherein said copy of the first connector application (5a) resides in said first server computer (112) of said service requestor (1).

15. The network of claim 10 wherein said copy of the second connector application (6a) resides in the second server computer (122) of said service provider (2).

16. The network of claim 10 wherein said copy of said first connector application (5a) resides in said first client computer (111).

17. The network of claim 10 wherein said copy of said second connector application (6a) resides in said second client computer (121).

18. The network of claim 10 wherein said first workflow management system application (3) is essentially the same



3 as said second workflow management system application  
4 (4) .

66407-043

# METHOD OF INTERCONNECTING COMPUTERS AND COMPUTER NETWORK

## Abstract of the Disclosure

5 A method and a computer network for interconnecting a first server computer (112) of a service requestor (1) and a second server computer (122) of a service provider (2), each of the first server computer (112) and the  
10 second server computer (122) being connected to at least one client computer (111, 121), the first server computer (112) running a first workflow management system application (3), and the second server computer (122) running a second workflow management system application (4), the method comprising providing a first and a second  
15 connector application (5a, 6a) for permitting the first server computer (112) access to a copy of the first connector application (5a) and for permitting the second server computer (122) access to a copy of the second connector application (6a), wherein the copies of the first and the second connector application (5a, 6a) each comprises a connection agreement (8, 12) for a first work  
20 task (7) of a first workflow instance (18) encompassed by the first workflow management system application (3), which copy of the first connector application (5a) further comprises a first mapping table (9) including a first service terminology and a common terminology, and which copy of the second connector application (6a) further comprises a second mapping table (13) including a  
25 second service terminology and the common terminology, the first work task (7) being transposed by the first mapping table (9) from the first service terminology into  
30

5

an input data set in the common terminology, the input data set being marshalled to the second server computer (122) over a common connection (17), and the marshalled input data set being transposed to a second work task (15) by the second mapping table (13) from the common terminology into the second service terminology, and the second work task (15) being processed by the second workflow management system application (4).

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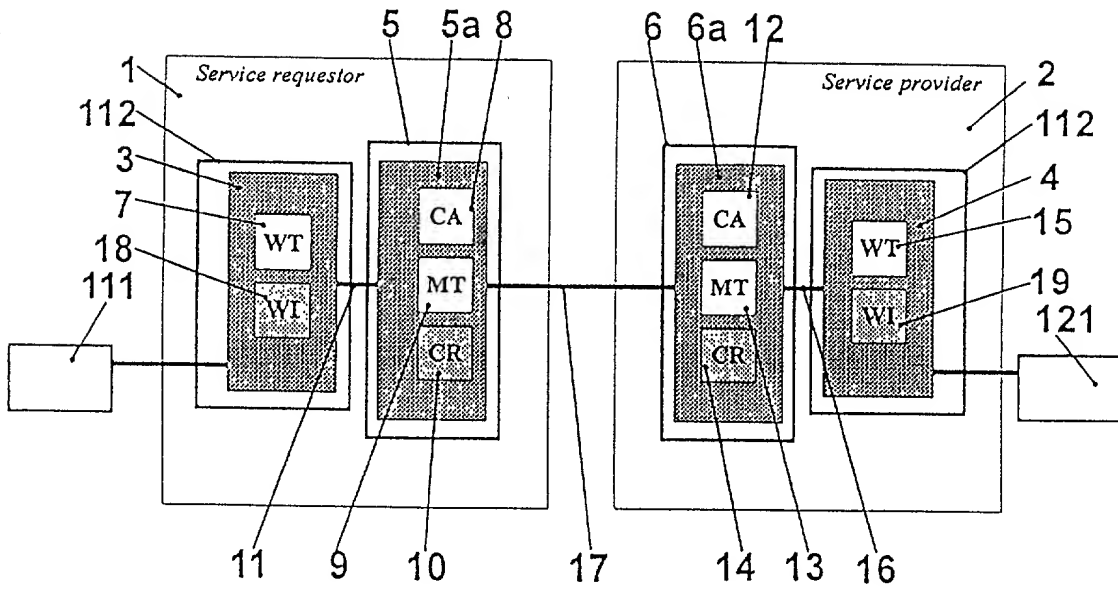


FIG. 1

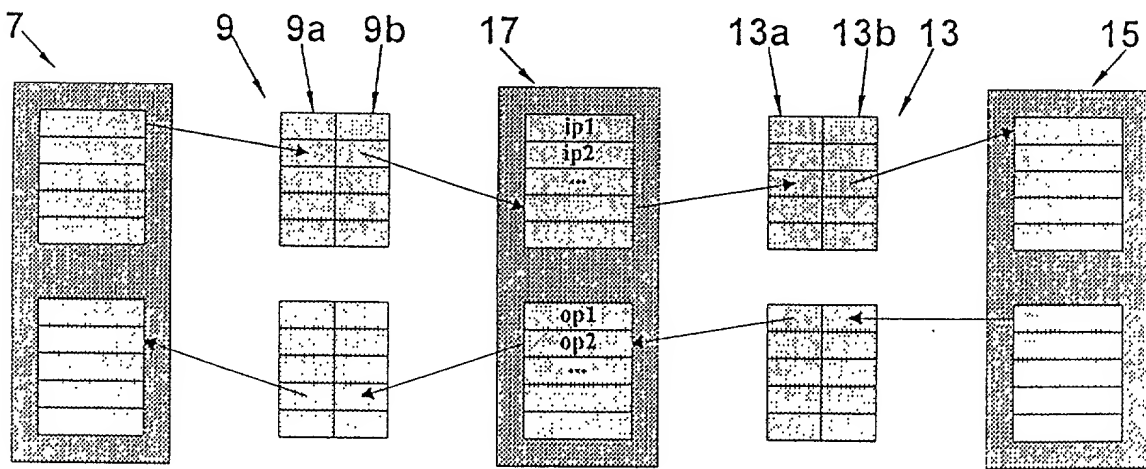


FIG. 2

# DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

## METHOD OF INTERCONNECTING COMPUTERS AND COMPUTER NETWORK

the specification of which (check one)

X is attached hereto.

was filed on \_\_\_\_\_ as United States Application Number \_\_\_\_\_

or PCT International Application Number \_\_\_\_\_

and was amended on \_\_\_\_\_ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application, having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s) Claimed		Priority
98121832.4	Europe	17 November 1998
(Number)	(Country)	(Day/Month/Year Filed)
		<u>X</u> Yes
		Yes
		Yes
		Yes

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

(Application Number) (Filing Date)

(Application Number) (Filing Date)

I hereby claim the benefit under 35 U.S.C. §120 of any United States Application(s), or §365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States, or PCT International application in the manner provided by the first paragraph of 35 U.S.C. §112, I acknowledge the duty to disclose information material to the patentability of this application as defined in 37 CFR §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith (list name and registration number).

Manny W. Schecter (Reg. 31,722), Terry J. Ilardi (Reg. 29,936), Christopher A. Hughes (Reg. 26,914), Edward A. Pennington (Reg. 32,588), John E. Hoel (Reg. 26,279), Joseph C. Redmond, Jr. (Reg. 18,753), Douglas W. Cameron (Reg. No. 31,596), Wayne L. Ellenbogen (Reg. No. 43,602), Stephen C. Kaufman (Reg. No. 29,551), Daniel P. Morris (Reg. No. 32,053), Louis J. Percello (Reg. No. 33,206), Jay P. Sbrollini (Reg. No. 36,266), David M. Shofi (Reg. No. 39,835), Robert M. Trepp (Reg. No. 25,933) and Louis P. Herzberg (Reg. No. 41,500).

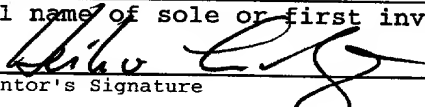
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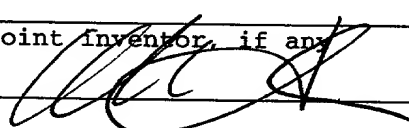
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Heiko Ludwig et al. Docket: 12990 SZ998-043

Serial No.: Unassigned

Dated:

Filed: Herewith

For: METHOD OF INTERCONNECTING COMPUTERS  
AND COMPUTER NETWORK

Assistant Commissioner for Patents  
Washington, DC 20231

ASSOCIATE POWER OF ATTORNEY AND  
REQUEST FOR CHANGE OF MAILING ADDRESS

Sir:

Applicants, by their attorney of record, hereby  
grant and Associate Power of Attorney to:

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31,346; KENNETH L. KING, Reg. No. 24,233; STEPHEN D. MURPHY,  
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Reg. No. 28,757; and EDWARD W. GROLZ, Reg. No. 33,705

with full power of substitution to prosecute this application and  
transact all business in the United States Patent and Trademark  
Office in connection therewith.

Applicants further request that all future correspondence  
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